PATENT COOPERATION TREATY

Pé	Mons .
From the INTERNATIONAL SEARCHING AUTHORITY	Mail Receive DCT
TO: DORSEY & WHITNEY LLP AREA. Abolev, Gary 250 Park Avenue New York NY 10177 ETATS-UNIS D'AMERIQUE	All Mail Received PCT JUL 14 200 NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION
120	(PCT Rule 44.1)
T.	Date of mailing (day/month/year) 04/07/2008
Applicant's or agent's file reference	
188002/PCT	FOR FURTHER ACTION See paragraphs 1 and 4 below
nternational application No.	International filing date
PCT/US2008/0.51432 Applicant	(day/month/year) 18/01/2008
International Search Report. Where? Directly to the International Bureau of WIPO, 34 1211 Geneva 20, Switzerland, Fascimile No.: (4 For more detailed instructions, see the notes on the acc The applicant is hereby notified that no International search Article 17(2)(a) to that effect and the written opinion of the in	h. s of the International Application (see Rule 46): naily two months from the date of transmittal of the chemin des Colombettes 1-22) 338.82.70 companying sheet. report will be established and that the declaration under ternational Searching Authority are transmitted herewith.
With regard to the protest against payment of (an) addition the protest together with the decision thereon has been applicant's request to torward the texts of both the protest, the apply	transmitted to the International Bureau together with the est and the decision thereon to the designated Offices.
. Reminders Shortly after the expiration of 18 months from the priority date, the international Bureau. If the applicant wishes to avoid or postpone p application, or of the priority claim, must reach the international Buberout her completion of the technical preparations for international bureau through the propile of the technical preparations for international thereau, the international Eureau will send a copy of international pursue will send a copy of international preliminary examination report has been or is to be est the public but not before the expiration of 30 months from the prior the public but not before the expiration of 30 months from the prior will be publicated to the object the expiration of 30 months from the prior examination must be filled if the applicant whishes to postpone the date (in some Offices even later); otherwise, the applicant must, wasts for entry into the national phase before those designated Offices.	sublication, a notice of withdrawal of the international recau as provided in Pulse 90b.3. and 90bis.3, respectively, a publication. Titlen opinion of the International Searching Authority to the such comments to all designated Offices unless an abblished. These comments would also be made available to try date. The opinion of the International preliminary or designated Offices and the opinion of the International preliminary or designated Offices, a demand for international preliminary only into the national phase until 30 months from the priority of the opinion of the priority of the opinion opinion of the opinion opinion of the opinion opinio
In respect of other designated Offices, the time limit of 30 months months.	

Name and mailing address of the International Searching Authority

Surpose Talent Office, P.B. 5618 Patentiaan 2
N.L. -2280 HY Pijswin, V.L. -2280 HY Pijswin, V

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the PCT Applicant's Guide, Volume II, National Chapters and the WIPO Internet site.

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Pattent Cooperation Treaty, the Rogulations and the Administrative instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the International Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims,description and drawings) may be amended during the international prelimitary examination procedure, there is usually no need to the amendment of the claims under Article 19 international prelimitary examination procedure, there is usually no need to the amendment of the claims under Article 19 reason for amending the claims before international publication. The process of processing the processing and the provisional protection is available in some Selation only see Part Applicant's Guide, Volume IVA, Annexes B1 and B2, in the provisional provisional processing and provisional provisional processing and provisional provisional processing and provisional provisional

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the International Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, Volume I/A, paragraph 296).

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the international Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry Into the national phase, all parts of the International application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time finit expires later. It should be noted, nowever, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1 and the completion of the technical preparations for international publication (Rule 46.1 and the completion of the technical preparations for international publication (Rule 46.1 and the completion of the technical preparations for international publication (Rule 46.1 and the completion of the compl

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filled.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Section 205b).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

		(PCT Article 18 and Rules 43 a	nd 44)	
Applicant's or age	ent's file reference	FOR FURTHER		see Form PCT/ISA/220
188002/PCT		ACTION	as well	as, where applicable, item 5 below.
International appl	ication No.	International filing date (day/month	/year)	(Earliest) Priority Date (day/month/year)
PCT/US2008	/051432	18/01/2008		19/01/2007
Applicant				
THE GENERA	L HOSPITAL CORPO	RATION		
This internationaccording to Art	al search report has been i	prepared by this International Search Insmitted to the International Bureau	ing Autho	ority and is transmitted to the applicant
This international	al search report consists o	f a total of shee	s.	
X	it is also accompanied by	a copy of each prior art document cit	ed in this	report.
1. Basis of the	e report			
a. With reg	gard to the language, the i	nternational search was carried out	on the bas	ils of:
		pplication in the language in which it	was filed	
	a translation of the of a translation fur	e international application into nished for the purposes of internatio	nal search	, which is the language (Rules 12.3(a) and 23.1(b))
b. 🔲	This international search r authorized by or notified to	eport has been established taking in this Authority under Rule 91 (Rule	to account	t the rectification of an obvious mistake
с. 🔲	With regard to any nucleo	tide and/or amino acid sequence	disclosed	In the international application, see Box No. I.
2.	Certain claims were four	nd unsearchable (See Box No. II)		
3.	Unity of invention is lack	sing (see Box No III)		
With regard	to the title,			
	the text is approved as sut	omitted by the applicant		
X	the text has been establish	ned by this Authority to read as follow	rs:	
		OR SIMULTANEOUS INSPEC ENCY DOMAIN OPTICAL CO		AT DIFFERENT DEPTHS BASED ON CE TOMOGRAPHY
With regard	to the abotreet			
	the text is approved as sut	mitted by the applicant		
=	**		s Authorit	y as it appears in Box No. IV. The applicant
	may, within one month from	n the date of mailing of this internation	onal searc	h report, submit comments to this Authority
With regard	to the drawings,			
-		ublished with the abstract is Figure N	o. <u>3</u>	
	X as suggested by the			
	as selected by this	Authority, because the applicant fai	ed to sug	gest a figure
1		Authority, because this figure better	character	rizes the invention
b. [_]	none of the figures is to be	published with the abstract		

A. CLASSIFICATION OF SUBJECT MATTER INV. G01B9/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) G01B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	US 6 738 144 B1 (DOGARIU ARISTIDE [US]) 18 May 2004 (2004-05-18)	1-6
Y .	column 4, line 18 - line 61 column 7, line 65 - column 8, line 25; figure 4	7
Y	US 2006/244973 A1 (YUN SEOK-HYUN [US] ET AL) 2 November 2006 (2006-11-02) *title, abstract* *figures 5, 7, 10A* page 1, paragraph 1 - page 3, paragraph 26 page 7, paragraph 91 - page 8, paragraph 95	1,2,4-7
А	page 11, paragraph 122 - page 14, paragraph 151	3

ı	ч			
ı	٠	Special	categories of	cited documents :

"A" document defining the general state of the art which is not

'A' document defining the general state of the an which is not considered to be of particular relevance
"E" earlier document but published on or after the international

X Further documents are listed in the continuation of Box C.

filing date

'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another

citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means.

P document published prior to the international filing date but later than the priority date claimed

Date of the actual completion of the international search

X.	See patent family annex.	

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of mailing of the international search report

17 June 2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2 NI - 2280 HV Bliswijk

NL = 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 351 apo nl, Fax: (+31–70) 340–3018 04/07/2008 Authorized officer

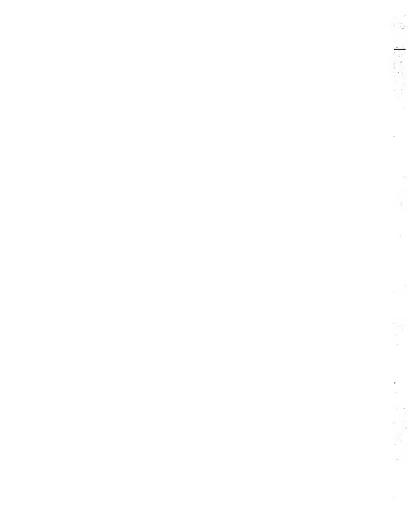
Malcoci. Andrei

4

JONATHAN E: "Dual reference arm low-coherence interferometer-based reflectometer for optical coherence tomography (OCT) application" 1 August 2005 (2005-08-01), OPTICS COMMUNICATIONS, NORTH-HOLLAND PUBLISHING CO. AMSTERDAM, NL, PAGE(S) 202 - 211, XP004964674 ISSN: 0030-4018 *title, abstract*, *sections 2.2. Axial scanning range and 4. Discussion*, *figures 1, 2, 8* WO 2006/039091 A (GEN HOSPITAL CORP [US]; YUN SEOK-HYUN [US]; BOUMA BRETT EUGENE [US]; T) 13 April 2006 (2006-04-13) *figures 1, 8* page 5, line 25 - page 6, line 8 page 10, line 23 - page 11, line 12 page 15, line 25 - page 17, line 5 S. M. R. MOTAGHIAN NEZAM ET AL: "Increased ranging depth in optical frequency domain imaging by frequency encoding" OPTICS LETTERS, vol. 32, no. 19, 1 October 2007 (2007-10-01), pages 2768-2770, XP002483301	1,2,4-7 HING , all 3 [US]; 1,2,4-7 3 1-6
JONATHAN E: "Dual reference arm 1,2	1,2,4-7 HING , all 3 US]; 1,2,4-7
# *title, abstract*, *sections 2.2. Axial scanning range and 4. Discussion*, *figures 1, 2, 8* WO 2006/039091 A (GEN HOSPITAL CORP [US]; YUN SEOK-HYUN [US]; BOUMA BRETT EUGENE [US]; T) 13 April 2006 (2006-04-13) *figures 1, 8* page 5, line 25 - page 6, line 8 page 10, line 23 - page 11, line 12 page 15, line 25 - page 17, line 5 P,X S. M. R. MOTAGHIAN NEZAM ET AL: "Increased ranging depth in optical frequency domain imaging by frequency encoding" OPTICS LETTERS, vol. 32, no. 19, 1 October 2007 (2007-10-01), pages 2768-2770, XP002483301	[US]; 1,2,4-7 IE 3 1-6
YUN SEOK-HYUN [US]; BOUMA BRETT EUGENE [US]; T) 13 April 2006 (2006-04-13) *figures 1, 8* page 5, line 25 - page 6, line 8 page 10, line 23 - page 11, line 12 page 15, line 25 - page 17, line 5 2. S. M. R. MOTAGHIAN NEZAM ET AL: "Increased ranging depth in optical frequency domain imaging by frequency encoding" OPTICS LETTERS, vol. 32, no. 19, 1 October 2007 (2007-10-01), pages 2768-2770, XP002483301	3 1–6
A page 15, line 25 - page 17, line 5 P,X S. M. R. MOTAGHIAN NEZAM ET AL: "Increased ranging depth in optical frequency domain imaging by frequency encoding" OPTICS LETTERS, vol. 32, no. 19, 1 October 2007 (2007-10-01), pages 2768-2770, XP002483301	1-6
"Increased ranging depth in optical frequency domain imaging by frequency encoding" OPTICS LETTERS, vol. 32, no. 19, 1 October 2007 (2007–10-01), pages 2768–2770, XP002483301	
2768-2770, XP002483301	7











information on patent family members

International application No PCT/US2008/051432

Patent document cited in search report		Publication date	Patent family Publication member(s) Publication date		
US 6738144	B1	18-05-2004	NONE	NONE	
US 2006244973	A1	02-11-2006	NONE	NONE	
WO 2006039091	А	13-04-2006	EP 1787105 A2 23-05-2007 JP 2008512686 T 24-04-2008 KR 20070072515 A 04-07-2007	JP 2008512686	-04-2008

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

-		
IU.		

PCT

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing		
day/month/year	see form PCT/ISA/210 (second sheet)	

Applicant's or agent's file reference see form PCT/ISA/220 FOR FURTHER ACTION See paragraph 2 below

International application No. International filing date (day/month/year) Priority date (day/month/year)
PCT/US2008/051432 18.01.2008 19.01.2007

International Patent Classification (IPC) or both national classification and IPC INV. G01B9/02

Applicant

THE GENERAL HOSPITAL CORPORATION

- This opinion contains indications relating to the following items:
 - Box No. I Basis of the opinion
 - ☐ Box No. II Priority
 - M BOX NO. II FIIOTILY
 - □ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Box No. IV Lack of unity of invention
 - Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - Box No. VI Certain documents cited
 - Box No. VII Certain defects in the international application
 - Box No. VIII Certain observations on the international application
- 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:

European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465

Date of completion of this opinion

see form PCT/ISA/210 Authorized Officer

Malcoci, Andrei

Telephone No. +49 89 2399-5814



Во	x N	o. I Basis of the opinion
1. Wi	th re	egard to the language, this opinion has been established on the basis of:
\boxtimes	the	e international application in the language in which it was filed
	a t pu	ranslation of the international application into , which is the language of a translation furnished for the rposes of international search (Rules 12.3(a) and 23.1 (b)).
2. 🗆	Th by	is opinion has been established taking into account the rectification of an obvious mistake authorized or notified to this Authority under Rule 91 (Rule 43bis.1(a))
		gard to any nucleotide and/or amino acid sequence disclosed in the international application and ary to the claimed invention, this opinion has been established on the basis of:
a.	type	of material:
		a sequence listing
		table(s) related to the sequence listing
b.	form	at of material:
		on paper
		in electronic form
c. 1	time	of filing/furnishing:
		contained in the international application as filed.
		filed together with the international application in electronic form.
		furnished subsequently to this Authority for the purposes of search.
4. 🗆	ha co	addition, in the case that more than one version or copy of a sequence listing andor table relating thereto s been filed or furnished, the required statements that the information in the subsequent or additional ples is identical to that in the application as filed or does not go beyond the application as filed, as propriate, were furnished.
5. Ad	ditio	nal comments:
Bo	x N	o. II Priority
1. 🛭	do re	ne validity of the priority claim has not been considered because the International Searching Authority es not have in its possession a copy of the earlier application whose priority has been claimed or, where quired, a translation of that earlier application. This copinion has nevertheless been established on the sumption that the relevant date (Rules 43 <i>bis.</i> 1 and 64.1) is the claimed priority date.

This opinion has been established as if no priority had been claimed due to the fact that the priority claim
has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international

filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 3,7

No: Claims 1,2,4-6

Inventive step (IS) Yes: Claims

No: Claims 1-7

Industrial applicability (IA) Yes: Claims 1-7

No: Claims

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: US6738144 B1 D2: US2006244973 A1 D3: XP004964674 D4: WO2006039091 A2 D5: XP02483301

- The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,2 and 4-6 is not novel in the sense of Article 33(2) PCT.
- 2.1. An apparatus as defined by claim 1 is anticipated by D1 (figure 4, column 7, line 65 column 8, line 25, column 4 lines 18 61).

The document D1 describes:

An apparatus (title) comprising:

- a) at least one first arrangement providing at least one first electro-magnetic radiation to a sample (references 121 or 122 in figure 4, column 7, line 65 column 8, line 25).
- b) at least one second electro-magnetic radiation to a first reference *arm* (reference 131 in figure 4, column 7, line 65 column 8, line 25)
- and at least one third electro-magnetic radiation to a second reference arm (reference 132 in figure 4, column 7, line 65 - column 8, line 25),
- wherein a frequency of radiation provided by the at least one first arrangement varies over time (column 4, lines 18-19, "a tunable light source");
- and at least one second arrangement configured to detect:

 a first interference between at least one fourth electro-magnetic radiation
 associated with the at least one first electro-magnetic radiation and at least
 one fifth electro-magnetic radiation associated with the at least one second

radiation, and a second interference between at least one sixth electro-magnetic radiation associated with the at least one first electro-magnetic radiation and at least one seventh electro-magnetic radiation associated with the at least one third radiation (column 8, lines 21-25 in combination with column 4, lines 57,58 and references 170, 180, 190 and 200 in figure 6).

2.2. The additional features of claims 2 and 4-6 are also known from D1.

Claim 2

The interferometer described in **D1** performs simultaneous measurements at two arbitrary locations within the sample (column 7, line 65 - column 8, line 15 in combination with figure 4) this implying that the reference arms have different lengths.

Claims 4-6

In the reference arms of the interferometer known from **D1** light is modulated at different frequencies (column 8, lines 1-6, figure 4).

For completeness it will be noted that this feature is also rendered obvious by the document D3 (figure 8 and section 4. Discussion) wherein the interferometer also includes means for shifting frequency.

- 2.3 Using more than two reference arms as shown in a further embodiment disclosed in the application (figure 3) is also described in D1 (column 8, lines 10-15).
- 3. Objections under Article 33(3) PCT
- 3.1 Dependent claims 3 and 7 do not contain any features which, in combination with the features of the claims to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT).

Claim 3

The interferometer described in D1 performs simultaneous measurements

at two arbitrary locations within the sample (column 7, line 65 - column 8, line 15 in combination with figure 4) this implying that the reference arms have different lengths. A skilled person would choose a suitable difference in the lengths of the reference arms (such as >500 μm), for practical reasons such as avoiding overlapping of the simultaneously inspected domains.

Claim 7

Using a laser having a tuning rate of 100 Terahertz/second is common in the art (see for instance **D2**, abstract or **D4**, page 10, line 23 - page 11, line 12).

3.2 For completeness it will be shown that the subject matter of claim 1 is not inventive over the disclosure of D2 ([0091]-[0095], figure 5 or [0122]-[0151], figure 10A).

The interferometer defined by **claim 1** differs from the disclosure of **D2** in that it has two instead of only one reference arms, this having the technical effect that simultaneous measurements at different locations within a sample are performed. The claimed solution to the objective technical problem of inspecting with an interferometer two different locations simultaneously is known in the art (see for instance **D3** (abstract, section 2.2. Axial scanning range and section 4. Discussion, figures 1,2 and 8) or **D1** ([column 7, line 65 - column 8, line 15])).

Thus a skilled person would arrive at the same solution without being inventive.

3.3 Using more than two reference arms as shown in a further embodiment disclosed in the application (figure 3) is also described in D1 (column 8, lines 10-15) and is therefore not considered as inventive over the disclosure of D2.

Re Item VI

4.1 Document D5 has been published after the priority date but before the filing date and describes the subject matter of claims 1-6.

Re Item VIII

Clarity objections under Article 6 PCT.

- Use of the term "at least" in the description ([0009] and [0011]) and in claims 1, 4-7 leads to a multitude of configurations that are confuse. Therefore said claims lack clarity.
- The term "reference" in claims 1-5 is ambiguous and appears to be used with the sense of "reference arm".
- The invention relates to an apparatus for use in the optical frequency domain (see description, page 1, [0002]) whereas the term "electromagnetic radiation" used in claims 1 and 4-7 extends beyond the domain of optical frequencies, including for instance the microwave domain and is therefore not supported by the Description (PCT/GL/ISPE1, 5.43).
- 4. In claim 5 and in the description ([0010] on pages 9 and 10) the <u>first</u> reference (arm) shifts the frequency of the <u>third</u> optical signal whereas according to claim 1 and another passage of the description ([0009] on page 9, figure 2A) the <u>third</u> optical signal is provided to the <u>second</u> reference arm. Thus the <u>second</u> (and not on the <u>first</u>) reference arm shifts the frequency of the <u>third</u> optical signal.
- The meaning of the term "associated" in claim 1 used for instance in the context "electro-magnetic radiation associated with" is not clear.

Re Item VII

Remarks regarding form and content

- The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D5 is not mentioned in the description, nor are these documents identified therein.
- 3. The documents reflecting the prior art described in Figures 1A, 1B, 1C and 1D are not

identified in the description (Rule 5.1(a)(ii) PCT).

Possible steps after receipt of the international search report (ISR) and written opinion of the International Searching Authority (WO-ISA)

General information

For all international applications filed on or after 01/01/2004 the competent ISA will establish an ISR. It is accompanied by the WO-ISA. Unlike the former written opinion of the IPEA (Rule 66.2 PCT), the WO-ISA is not meant to be responded to, but to be taken into consideration for further procedural steps. This document explains about the possibilities.

under Art. 19 PCT

Amending claims. Within 2 months after the date of mailing of the ISR and the WO-ISA the applicant may file amended claims under Art. 19 PCT directly with the International Bureau of WIPO. The PCT reform of 2004 did not change this procedure. For further information please see Rule 46 PCT as well as form PCT/ISA/220 and the corresponding Notes to form PCT/ISA/220.

Filing a demand for international preliminary examination

In principle, the WO-ISA will be considered as the written opinion of the IPEA. This should, in many cases, make it unnecessary to file a demand for international preliminary examination. If the applicant nevertheless wishes to file a demand this must be done before expiry of 3 months after the date of mailing of the ISR/WO-ISA or 22 months after priority date, whichever expires later (Rule 54bis PCT). Amendments under Art. 34 PCT can be filed with the IPEA as before, normally at the same time as filing the demand (Rule 66.1 (b) PCT).

If a demand for international preliminary examination is filed and no comments/amendments have been received the WO-ISA will be transformed by the IPEA into an IPRP (International Preliminary Report on Patentability) which would merely reflect the content of the WO-ISA. The demand can still be withdrawn (Art. 37 PCT).

Filing informal comments

After receipt of the ISR/WO-ISA the applicant may file informal comments on the WO-ISA directly with the International Bureau of WIPO. These will be communicated to the designated Offices together with the IPRP (International Preliminary Report on Patentability) at 30 months from the priority date. Please also refer to the next box.

End of the international phase

At the end of the international phase the International Bureau of WIPO will transform the WO-ISA or, if a demand was filed, the written opinion of the IPEA into the IPRP, which will then be transmitted together with possible informal comments to the designated Offices. The IPRP replaces the former IPER (international preliminary examination report).

Relevant PCT Rules and more information

Rule 43 PCT, Rule 43bis PCT, Rule 44 PCT, Rule 44bis PCT, PCT Newsletter 12/2003, QJ 11/2003, QJ 12/2003

Bitte beachten Sie, dass angeführte Nichtpatentliteratur (wie z.B. wissenschaftliche oder technische Dokumente) je nach geltendem Recht dem Urheberrechtsschutz und/oder anderen Schutzarten für schriftliche Werke unterliegen könnte. Die Vervielfältigung urheberrechtlich geschützter Texte, ihre Verwendung in anderen elektronischen oder gedruckten Publikationen und ihre Weitergabe an Dritte ist ohne ausdrückliche Zustimmung des Rechtsinhabers nicht gestattet.

Veuillez noter que les ouvrages de la littérature non-brevets qui sont cités, par exemple les documents scientifiques ou techniques, etc., peuvent être protégés par des droits d'auteur et/ou toute autre protection des écrits prévue par les législations applicables. Les textes ainsi protégés ne peuvent être reproduits ni utilisés dans d'autres publications électroniques ou imprimées, ni rediffusés sans l'autorisation expresse du titulaire du droit d'auteur.

Please be aware that cited works of non-patent literature such as scientific or technical documents or the like may be subject to copyright protection and/or any other protection of written works as appropriate based on applicable laws. Copyrighted texts may not be copied or used in other electronic or printed publications or re-distributed without the express permission of the copyright holder.